Nov. 3, 1925. 1,559,787

G. W. SCHAUERTE ET AL

CARTRIDGE OR SHELL

Filed May 31, 1924

Fig. 2.

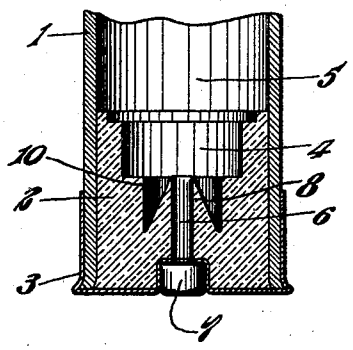


Fig. 1.

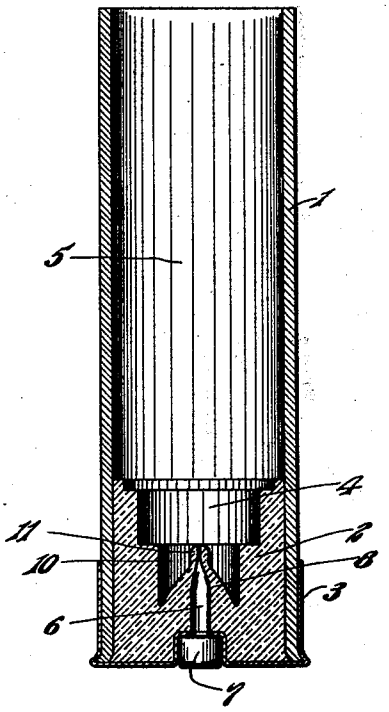
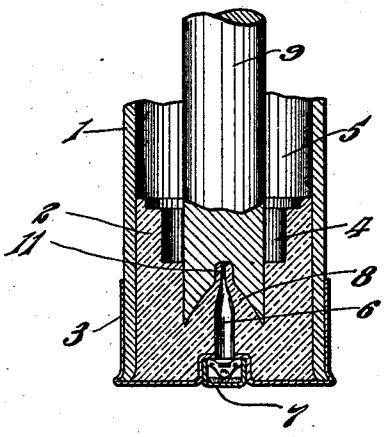


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CARTRIDGE OR SHELL.

Application filed May 31, 1924. Serial No. 717,002.

To all whom it may concern:

Be it known that we, GEORGE W. SCHAUERTE and ALBERT J. HINDRICHS, both citizens of the United States, and residing at Alton and East Alton, State of Illinois, have invented the new and useful Improvement in Cartridges or Shells, of which the following is a specification.

This invention relates to ammunition, and more particularly to cartridges or shells used in shot guns and the like.

The ordinary cartridge or shell is provided with a priming device which includes a priming cap usually empty, except for a small charge of fulminate. This cap is mounted in a suitable primer cavity which is in communication with that part of the interior of the shell which receives the propelling charge. In the ordinary construction the opening or duct which leads from the primer cavity to the propelling charge is sufficiently large so that the grains of the propelling charge may sift into the primer cavity or duct. In the ordinary handling of the shell, a considerable quantity of powder from the propelling charge may thus find its way into the primer cavity and even into the primer cap itself.

Under such conditions when the fulminate in the cap is detonated, the powder in the primer cavity will be ignited and the succeeding explosion may produce sufficient pressure in this cavity to rupture the priming cap and may even discharge a flame rearwardly of the shell so as to endanger the eye of the shooter.

One of the objects of this invention, therefore, is to provide a shell construction which will prevent grains of the propelling charge from entering into the primer cavity.

Another object is to provide a construction which not only will prevent the propelling charge from finding its way into the primer cavity but which will provide that upon detonation of the primer the flame produced thereby will be readily transmitted to the propelling charge.

Another object of this invention is to provide a method of making such a cartridge or shell.

Further objects will appear from the detail description taken in connection with the accompanying drawing, in which:

Figure 1 is a view in cross-section showing a shot gun shell embodying this invention;

Figure 2 is a partial view of the same showing the base wad previous to the final forming operation; and

Figure 3 is a similar view showing the forming tool in the act of forming the base wad.

Referring to the accompanying drawing, Figure 1 shows a completed shot gun shell. This comprises the ordinary paper shell 1 which has mounted in its base a base wad 2 secured and reenforced by the metallic shell 3. The base wad is first formed to the shape shown in Figure 2 in which an opening or cavity 4 is provided open to the chamber 5 of the shell which receives the propelling charge. The base wad is formed with a flash duct 6 communicating with the primer cavity containing the primer cap 7. The flash duct 6 is surrounded by a wall 8 formed in the base wad and tapered upwardly as illustrated in Figure 2.

With the base wad 2 formed as illustrated in Figure 2, the upper tip of the wall 8 of the flash duct is comparatively thin and, therefore, somewhat weakened. Prior to inserting the propelling charge, the base wad is reformed as illustrated in Figure 3. A suitable punch or other tool 9 is formed to fit within the cavity 10 in the base wad surrounding the wall 8 and is internally chambered to the form shown in Figure 3. When this tool is brought down upon the wad, the tip of the wall 8 is compressed, swaging the sides thereof together to form a reduced tip 11 formed by the collapsed wall and so as to substantially close the upper end of the flash duct 6. This tip being thus compressed or crimped closes the flash duct 6, but provides a weakened portion which will yield to the pressure generated in the primer cavity by the detonation of the primer so that this tube will be blown open, thereby permitting the flash to communicate with the propelling charge to ignite the same.

There is thus provided a simple and effective method of overcoming the difficulties incident to the sifting of powder grains into

the primer cavity. By forming the base wad to close the primer cavity, the necessity of providing a closed battery cup or other similar device is obviated. This construction is carried out by a very simple operation reforming the tip 11 so as to compress and weaken the same. This at once provides for closing the flash duct under normal conditions and opening the same at the proper time for transmitting the flash to the propelling charge.

It is obvious that various changes may be made in details of construction without departing from the spirit of this invention; it is, therefore, to be understood that this invention is not to be limited to the specific details shown and described.

Having thus described the invention, what is claimed is:

1. In a cartridge or shell, a base wad having a substantially closed flash duct.

2. In a cartridge or shell, a base wad having a flash duct whose walls are formed to be blown open.

3. In a cartridge or shell, a base wad having a flash duct whose walls are crimped together.

4. In a cartridge or shell, a base wad formed with a flash duct substantially closed at one end and having thin walls at its closed end.

5. In a cartridge or shell, a base wad formed with a flash duct substantially closed at one end and having walls at its closed end formed so as to yield to pressure within said duct.

6. A cartridge or shell having a base wad, a primer, and a flash duct passing through said wad and nearly closed at its flash end.

7. A cartridge or shell having a primer and a base wad provided with a flash duct, the base wad being formed to provide a nearly closed but weakened tip for said duct.

8. A cartridge or shell having a primer and a base wad formed to provide a flash duct terminating in a converging tip, said tip being collapsed to close said duct.

9. A cartridge or shell having a primer, a base wad provided with a flash duct leading from said primer, and a compressed tip for said wad adapted to close said duct.

10. The method of making base wads for cartridges or shells, comprising, forming the wad with a flash duct, and substantially closing said duct.

11. The method of making base wads for cartridges or shells, comprising, forming the wad with a flash duct, and swaging the walls of said duct together.

12. The method of making base wads for cartridges or shells, comprising, forming the wad with a flash duct, and reforming the walls of said duct.

13. The method of making base wads for cartridges or shells, comprising, forming the wad with a flash duct terminating in a converging tip, and compressing said tip to close said duct.

In testimony whereof we affix our signatures this 9th day of April, 1924.

GEORGE W. SCHAUERTE.
ALBERT J. HINDRICHS.